DEPARTMENT of ENVIRONMENTAL SERVICES
Water Division - Watershed Management Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake:	LYNXFIELD POND	**Lake Area (ha):**	6.07
Town:	CHICHESTER	**Maximum Depth (m):**	4
County:	MERRIMACK	**Mean Depth (m):**	2.1
River Basin:	MERRIMACK	**Volume (m^3):**	145000
Latitude:	43°43'16" N	**Relative depth:**	1.4
Longitude:	71°71'24" W	**Shore Configuration:**	1.4
Elevation (ft) :	426	**Areal water load (m/yr):**	7.48
Shore length (m):	1300	**Flushing Rate (yr^{-1}):**	3.5
% Watershed Ponded:	0	**P retention coeff.:**	0.59
Watershed Area (ha)	126.3	**Lake Type**	natural

BIOLOGICAL:		**29-Jan-04**	**25-Aug-03**
DOM. PHYTOPLANKTON (% TOTAL)	#1	GLENODINIUM 80%	CHRYSOSPHAERELLA 40%
	#2	ASTERIONELLA 10%	DINOBRYON 35%
	#3	DINOBRYON 5%	MALLOMONAS 6%
CHLOROPHYLL-A (ug/L)			18.78
DOM. ZOOPLANKTON (% TOTAL)	#1	KERATELLA 73%	KERATELLA 40%
	#2	ASPLANCHNA 8%	NAUPLIUS LARVA 33%
	#3	rotifer spp. 7%	
ROTIFERS/LITER		1062	116
MICROCRUSTACEA/LITER		<1	87
ZOOPLANKTON ABUNDANCE (#/L)		1191	233
VASCULAR PLANT ABUNDANCE			Very Abundant
SECCHI DISK TRANSPARENCY (m)			1.9
BOTTOM DISSOLVED OXYGEN (mg/L)		2.6	0.7
BACTERIA (E. coli, #/100ml)	#1		<10
	#2		<10
	#3		

SUMMER THERMAL STRATIFICATION:

weakly stratified

Depth of thermocline (m):	None
Hypolimnion volume (m^3):	None
Anoxic Volume (m^3):	25500

CHEMICAL: **Lake: LYNXFIELD POND**
Town: CHICHESTER

	29-Jan-04		25-Aug-03		
DEPTH (M)	1.0	3.0	1.5		3.0
pH (units)	5.2	5.5	5.7		5.6
A.N.C. (Alkalinity)	3.5	4.2	3.0		3.6
NITRATE NITROGEN	< 0.05	< 0.05	< 0.05		< 0.05
TOTAL KJELDHAL NITROGEN	0.80	0.70	0.60		0.60
TOTAL PHOSPHORUS	0.029	0.022	0.025		0.033
CONDUCTIVITY (umhos/cm)	49.8	42.1	30.8		32.7
APPARENT COLOR (CPU)	60	60	55		55
MAGNESIUM			0.67		
CALCIUM			2.1		
SODIUM			2.4		
POTASSIUM			< 0.40		
CHLORIDE	6	5	4		4
SULFATE	4	3	2		2
TN : TP	28	33	25		19
CALCITE SATURATION INDEX					

All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 2003

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	4	6	4	14	EUTRO

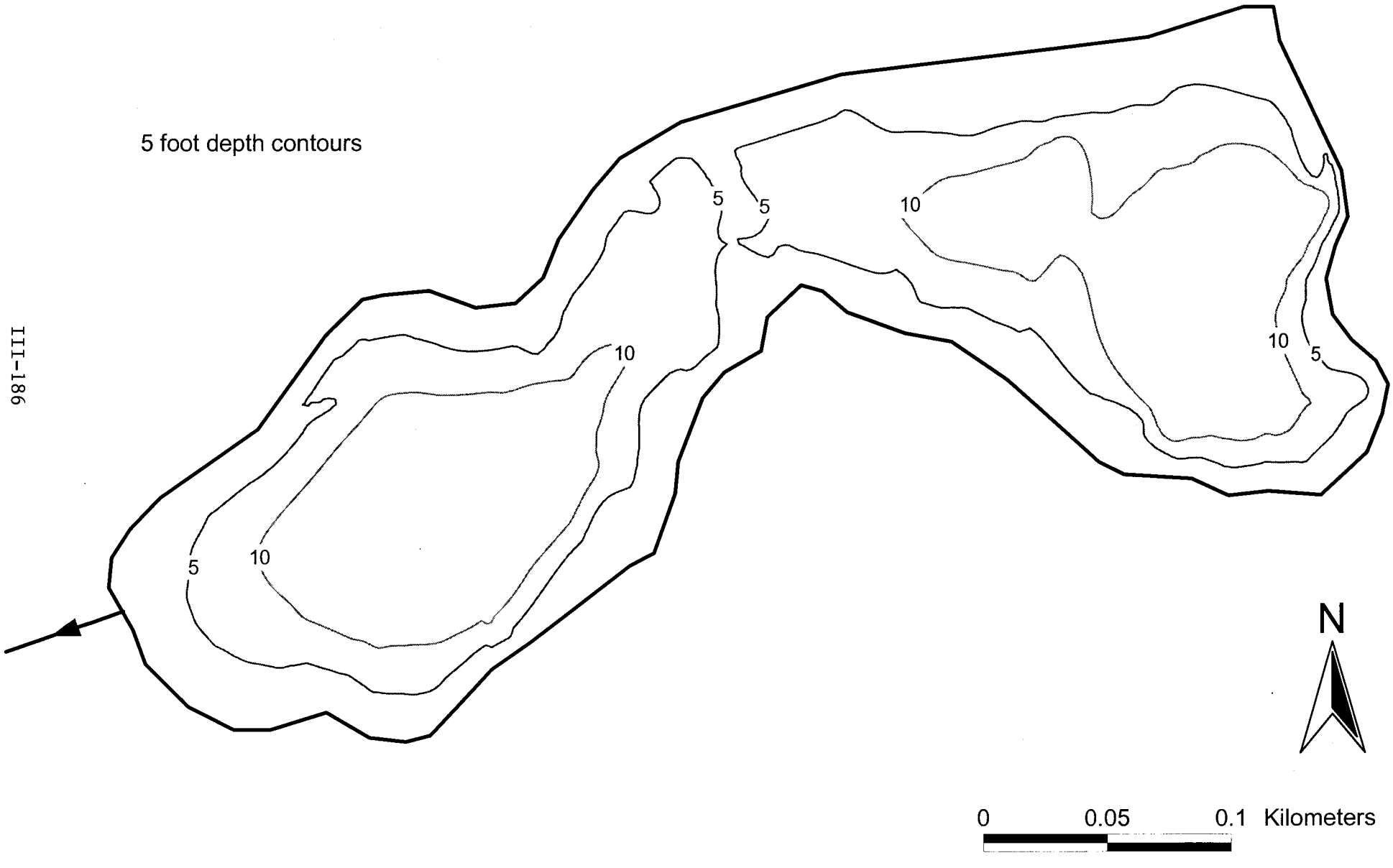
COMMENTS:

1. A remote pond that was accessed via a 4-wheel drive snowmobile road and a ¾ mile walk-in along a rough and muddy trail.

2. A tea-colored, acidic, eutrophic pond. The pond was very productive with both abundant rooted plant growth and elevated planktonic algae levels (chlorophyll). Zooplankton, particularly rotifers, were most numerous in the winter.

Lynxfield Pond

Chichester



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FIELD DATA SHEET

LAKE: LYNXFIELD POND **TOWN:** CHICHESTER

DATE: 8/25/03 **WEATHER:** Cool, calm, and cloudy

	DEPTH (M)	TEMP (^{0}C)	DISSOLVED OXYGEN (mg/L)	PERCENT SATURATED
	0.1	22.8	4.7	54.4
	1.0	22.7	4.7	54.5
	2.0	22.6	4.3	49.4
	3.0	19.7	0.6	6.4
	3.5	17.8	0.7	7.5

SECCHI DEPTH (m) : 1.9

BOTTOM DEPTH (m) : 4.0

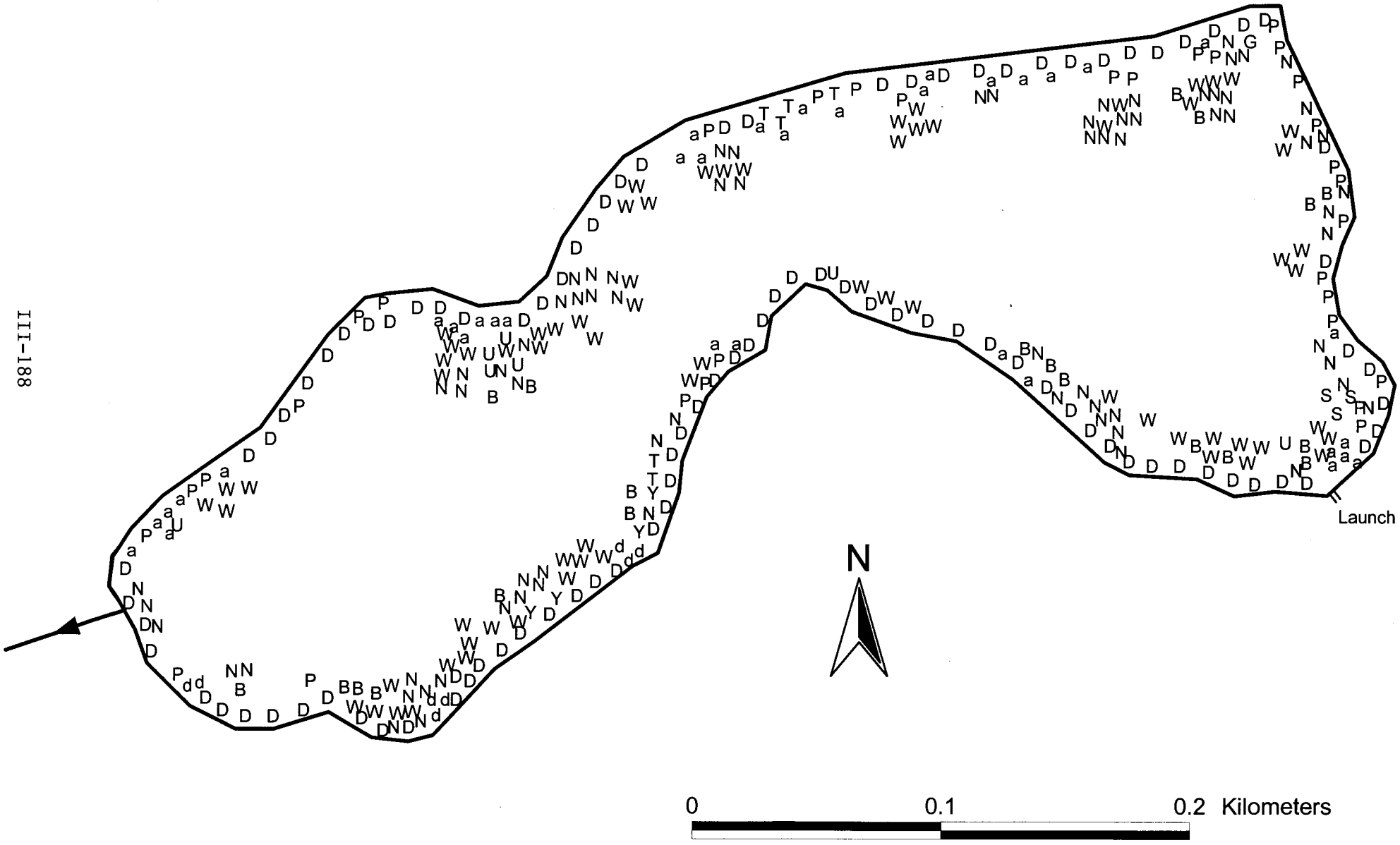
TIME: 1030

COMMENTS:

Note the low D.O. values in the surface waters – below water quality criteria.

Lynxfield Pond

Chichester



AQUATIC PLANT SURVEY

LAKE: LYNXFIELD POND **TOWN:** CHICHESTER **DATE:** 8/25/03

KEY	PLANT NAME		ABUNDANCE
	GENERIC	COMMON	
N	Nymphaea	White water lily	Abundant
B	Brasenia schreberi	Water shield	Abundant
W	Potamogeton	Pondweed	Very Abundant
a	Peltandra virginica	Arrow arum	Common
D	Decodon verticillatus	Swamp loosestrife	Common/Abund
d	Dulichium arundinaceum	Three-way sedge	Common
U	Utricularia	Bladderwort	Common
Y	Nuphar	Yellow water lily	Scattered
P	Pontederia cordata	Pickerelweed	Common
T	Typha	Cattail	Scattered
G	Gramineae	Grass family	Scattered
S	Sparganium	Bur reed	Scattered

OVERALL ABUNDANCE : Very Abundant

GENERAL OBSERVATIONS :

1. Pond was surrounded by wetlands; no development.
2. Several species of pondweed (*Potamogeton*) were observed, including one that formed thick mats that interfered with navigation.